MICHIGAN FARMER.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC ECONOMY.

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BY H. HURLBUT,

EDITOR AND PROPRIETOR.

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[For particulars see last page.]

☞ *An error has occurred in the arrangement of our pages, by which Pages* 62 *and* 63 *are transposed.*

Calendar for July.

Kitchen Garden.—The season, so far, has been very unfavorable for the vegetation of seeds. The frosts have destroyed early sowings of vegetables, the worms and bugs have been numerous, and taken more than their share. It will now be best to make the most of this month, that you may have a supply of vegetables for the table during winter. Fill up all vacancies amongst your beets, carrots, parsnips and oysters, by sowings. Make new sowings of beets, carrots, parsnips, oysters, and you will be likely to have *better* roots than from the sowing in May. I have sown the above as late as the 10th of July and had an *excellent* crop. Plant cucumbers for pickles, bush beans. Sow peas, lettuce, peppergrass, radish, spinach, &c., for succession. Stick poles to your running beans. Transplant cabbage, cauliflower, broccoli, pepper, egg plants, and tomato, if not already done. Put the cabbage amongst the cucumbers and melons, the vines will run among the cabbage, and be protected by their leaves from the early frosts. Thin out former sowings, and hoe often. If not already done, make the trenches for blan ching celery: dig them eighteen inches deep, six inches wide at the bottom, and fifteen at the top. Prepare a compost of one part well rotted manure, one part good soil, mix well, and fill the trench to the depth of four inches with the compost, and water freely: take the plants that were pricked out last month, cut off the tap root, place them on a line in the bottom of the trench about five inches apart, bring the compost close around the roots, give a good watering, and shade for four or five days. Observe to remove the covering by degrees. After the plants begin to grow, twice a week with one hand enclose the leaf stalks, and with a trowel or hoe draw the earth around them, *always leaving* the centre stalk uncovered. Give at all times plenty of water, observing to pour the water so that the leaves and stalks may be wet as little as possible. Pie plant, sage, parsley, and other perennials may be sown this month.

Flower Garden.—Early planted dahlias will begin to flower this month. Water freely, and tie the plants to neat rods to prevent their being blown down. Sow biennial and perennial flower seeds in a bed prepared for the purpose; transplant annuals if not already done. Bulbs of Tulips, Hyacinths, Crocus, Crown Imperial, Narcissus, Star of Bethlehem, and others whose tops have decayed, should be taken up this month, wrapped in paper, and put in a dry place until October.

Green-House.—May be managed as directed last month.

Fruit Yard and Orchard.—Trees, if not already pruned, should have all superfluous shoots nipped off and pruned moderately. I am not an advocate for severe pruning. A tree will send forth branches in proportion to its root, some of which may be pruned off to admit a more free circulation of air through the branches, and also to improve the shape of the top. Wash the trees with soap suds or lye.

Strawberry plantations may be made this month. Make the ground *rich*, set the plants twelve inches apart each way, cut off a part of the runners, keep them clear of weeds, and you may expect fruit next year to reward you amply. The Austrian Scarlet, Downton and Rose End Scarlet, of the English varieties, succeed well. The common strawberry of our plains and openings will well replay for cultivation; *try them.* The white and monthly produce good fruit, but are not good bearers. As fruit is the object, procure those that bear most.

Industry is fortune's right hand; frugality her left.

For the Michigan Farmer,

Housing Sheep.

NUMBER 3.

MR. HURLBUT,—

Sir: I left home the fore part of May on a tour to the eastern states to make a selection of sheep, intending at the same time to take a few more lessons by the way of enquiring more closely into the system of housing sheep during the season of foddering. I find all who have had any experience in it consider it of the greatest consequence for several reasons, among which are the following, viz: 1. Preservation of life. 2. Increase of the quantity and quality of the wool. 3. Improvement in size and shape of the stock or increase, arising from the improved condition the ewes are in by being protected from every variety of storms to which they are exposed during the winter and spring, without shelter. 4. Less feed, and a total abandonment of feeding grain, which, with many, I find is considered a very important consideration. Sixteen years ago, some of the most prominent fine wool growers in Dutchess county practiced feeding grain to sheep almost entirely through the winter and spring. A few days since, one of them informed me that he had abandoned the system entirely; at first left off during the winter, but kept it up in the spring, supposing it actually necessary in order to keep up good condition through the warm weather in the spring between hay and grass; but that for a few years past he has had better success by feeding no grain at all. His reasons were, that he had observed that as soon as he began feeding grain, his sheep seemed for some reason to eat quite too little hay; which he supposed was owing to loss of appetite for it, occasioned by a taste of the grain. Indeed, I have found some wool growers so utterly opposed to feeding grain, as to say that they believe it to be unnatural feed for sheep at any time.

On the subject of housing sheep, I find a difference of opinion in regard to the extent to which it should be carried. Some wish them housed only in case of a storm either of snow or rain; this they consider very important; while others keep the doors of their sheep barns fastened open during the winter and spring, and leave it to the instinct of the sheep, and say that they seem to act with sufficient judgment in case of storms or severe cold weather in regard to shelter; and therefore the owners feed them in racks in the barns or in adjoining fields or yards as the weather directs.—But in all cases the last feeding for the day should be in time for them to get their supply before, or at least by sunset.

The strongest advocate for housing to the letter, or close confinement, I found in the State of Connecticut, in one who keeps between 1500 and 2000 sheep, and had practiced that system for the last 12 years with complete and satisfactory success. I found him erecting a new barn at considerable expense, for that purpose, confident from past experience of getting well paid for it. He informed me, that for several years past he has not suffered his sheep to get wet during the winter, either by snow or rain. He showed me a building in which he kept 230 confined from the 20th of last November until the fore part of April without once letting them out during that time. His losses everage about one to 100 during the winter and spring. I have found some of the less extensive wool growers who keep from 2 to 300 fine sheep, almost discouraged in consequence of severe losses; when, on inquiry, I found their sheep had had neither shelter nor water. They appeared surprised on being told that sheep must have water during the winter; they well knew that other stock needed water, but supposed it not so necessary for sheep. How astonishingly mistaken in this notion are scores who, in every other respect, are correct farmers! In conversation with those most successful on this subject, they would unhesitatingly say that sheep would not live without water, even if there was ever so much snow; (which some think is a substitute,)—that they should expect their sheep to die, unless they had an opportunity to drink when they wished.

I will close this short communication by informing the farmers of Michigan that in view of the importance of introducing the most profitable kind of sheep into our new state, I left home with the determination to ascertain, if possible, which, among the many varieties now in existence, bid fairest to be the most advantageous in future. I have often been amused in this somewhat perplexing task, and it has often brought to my mind observations frequently made ten or twelve years since, in regard to the different sections of Michigan. Every man you saw lived in the most healthy part, although each one inhabited different towns or counties; yet on the whole I feel that I have obtained much useful information in regard to sheep husbandry, and also as to which grade for a few years hence bids fair to be most profitable; which, if I were to undertake to publish, with my reasons for my present opinion, it would take more time than I should like to spare at present. I therefore close for this time, hoping to arrive at home in time to write for the August No. of your paper, if I shall consider that I can contribute to the benefit of any of its readers.

GEO. J. BARKER.

June 14th, 1845.

For the Michigan Farmer.

Facts vs. Theory.

MR. EDITOR:

The communications on housing sheep in the April and June numbers of the Farmer, together with the rejoinder, have created an excitement in these parts hitherto unknown; or, at least, nothing since the *Toledo war* has equalled it. As it is the common topic of conversation among farmers, and as my opinion has been frequently and almost daily asked on the subject, I thought to give you my views.

The tenacity with which farmers, as a body, cleave to their former opinions and habits, has become proverbial; and indeed there are reasons why we should put a "stone in one end of the bag to balance the grist," because our fathers and grand-fathers did; yet as innovation, although sometimes injurious, is no crime, some of us are beginning to think and act for ourselves. The experiment of

Mr. B., so far as carried out is perfectly satisfactory; and in this respect he has decidedly the advantage of Mr. S., who himself acknowledges that he has not tried it; and one fact in farming is worth, in my opinion, a dozen theories; yet, in order to prove the utility of housing, it should be tried on different flocks, and if the result should invariably prove favorable it might be more strongly recommended. I know a man who is strongly opposed to *housing*, that keeps his horses in winter blanketed in a stable nearly as warm as a bed room, and when asked why he does so, will tell you it helps to keep them in flesh, and makes their coat sleek, smooth, and fine.—Strange the man's practice is so at variance with his theory. Why not let them run in a yard, and go under a shed when instinct directs. I was recently at one of my neighbors, when of course the subject of housing came up, he strongly supporting the negative, for the reasons commonly assigned; free air, exercise, &c. "Come," said he, "go, see my pigs, I think they can't be beat." The invitation I readily accepted, as I am an admirer of fine swine; when behold! contrary to his theory, his pigs, some dozen or fifteen, were in a close pen, in the effluvia of their own litter, and, "mirabile dictu!" they looked quite as healthy, and in as good plight, as any I had seen that had the whole length of the street to run in. I once saw in my younger days, "down east," a man feeding his fattening hogs rye in the bundle, which he scattered on the ground. When asked why he did so, said he, "It is necessary for any animal in order to thrive, to have exercise." Excellent theory, thought I, but bad practice.

Some contend that exposure to the cold is favorable to the growth of wool; from the fact that all animals in a cold climate are provided with a covering, which, by an effort of nature, is increased by their exposure. Thus we see that when cattle or horses are unprotected, their hair grows long and thick; but this, be it remembered, is always produced at the expense of the flesh of the animals; a fact all will readily admit. Now cattle and horses have a hardy constitution, and can endure any climate inhabited by man; but sheep, although furnished with a thick and warm covering, have a thin skin, and a comparatively slender constitution; and the effort that nature would make for their extra covering so reduces their flesh, that they fail under it: not in every case it is true; but always in a greater or less degree. I speak more particularly of Merino sheep* as it is these that most need protection. Now your readers are aware that the climate from whence these sheep are brought, is much warmer than ours; and even there, they are driven from the highlands, at the approach of winter, into the warmer parts of the country; thus by changing their location with the seasons, equalizing the temperature as much as may be.

It may be that housing in this country will overcome the difficulties of our climate, and prevent the deterioration of Spanish sheep, so that we shall not need to import in order to keep up our flocks to their original fineness; at any rate it is to be hoped that it will be fully tested before it is given up, and the result made known. We hope to hear again from your able correspondents, and this, more than any thing else, has induced me to write, that we may have the observations of those who have had experience in the business of keeping sheep. I fully agree with Mr. B., that growing wool will be an important consideration in this State, as no stock is so well adapted to a grain growing country as sheep; and the best and cheapest manner of keeping them is a grand desideratum. I may, should this meet with a favorable reception, give you, in some future number, my manner of keeping, or rather of losing sheep.

Yours, T. Swan.

Washtenaw co., Mich., June 20, 1845.

* Merino is a name given to all Spanish sheep from the officers of that government, who have the charge of the sheep being called Merinos.

For the Michigan Farmer.

Choice Fruits.

In a former communication it was intimated that the inexperienced cultivator would have to rely more or less upon the opinions of others, respecting the quality of fruits he may wish to select for his orchard and fruit yard. To aid such, and in compliance with your request, I propose to give you occasionally articles containing a description of fruits which are deemed worthy of cultivation. The names italicized are synonyms, names by which the same fruit is known in different places.

SUMMER OR EARLY APPLES.

White Astracan, *Transparent Moscow.*—I have two apples bearing the above name—one kind I received from the Ypsilanti Nursery, and the other came from Prince's Garden, Flushing, L. I. The former is of the size of a hen's egg, beautiful to the eye, but possesses no other merit: but the latter is a superior early fruit. I have had them ripe by the middle of July. It is of medium size; roundish form, and covered with a white bloom—sometimes slightly blush on the side exposed to the sun—flesh snow white and quite tart. A finer apple for cooking cannot be produced, and it ought to be found in every orchard.

Early Sweet Bough, *Harvest Bough, Bough Sweet, German Bough.*—Form roundish oval, color pale yellow—above medium size; this ripens about the same time as the Whith Astracan. The tree is a good bearer, and the fruit is sweet and

excellent, and is undoubtedly one of the best early sweet varieties in cultivation.

EARLY HARVEST, *Prince's Yellow Harvest, Prince's Early Harvest.*—Medium size, roundish form, color pale yellow, ripens last of July or first of August, and for pies in June, the flavor is fine.

TART BOUGH HARVEST.—I have two apples in bearing of this name; the color and flavor alike. The form of one is round, the other is broader at the base than at the apex. The latter is somewhat larger than the former, both rather below medium size. They are a fine early fruit, and well worthy of a place in every catalogue. Color when at maturity, pale yellow, ripe the last of July, or first of August.

SUMMER HARVEY.—Form round, color green, large size and of superior flavor. It is a favorite in New Hampshire, from whence the scions were received. It ripens last of July, or first of Aug. it is a great bearer. Whether this will prove to be a new variety or a synonym of some other variety, I cannot now tell, as I have not got it yet in bearing, but hope to get fruit from it this season, should the weather be propitious. [Written in May.]

RED MARGARET, *Red Juneating, Striped June, Strawberry,* Eve Apple of the Irish.—This I have not yet in bearing. The apple, says Mr. Prince, is beautiful, and one of the best flavored varieties of early apple; it ripens last of July or first of August. Color striped, form ovate, and of medium size. The tree is a great bearer. Kenrick's description corresponds to the above. He states that there is an American variety bearing this name, but does not describe it.

ORANGE PIPPIN.—There are two apples bearing this name; the one a winter, and the other a summer fruit. The former originated in Normandy, the latter in Monmouth, N. J. The apples are said to resemble each other in size and form, color and flavor. The latter is one of the earliest varieties I have in bearing. The form and color resemble an orange, and it is one of the finest, most beautiful early varieties with which I am acquainted: ripens in July. It ought to be found in every orchard.

SUMMER QUEEN.—This is described by writers as one of the most beautiful known, and of the finest quality for the desert or for cooking—is a great and constant bearer, of large size, fine yellow in the shade striped with red, fine deep red next the sun; the flesh is yellow, rich, sweet, perfumed; it ripens in August.

OAKLAND.

For the Michigan Farmer.

Plymouth, April 24, 1845.

DEAR SIR:—

In looking over the 1st No. of the Farmer, I discover the subject of Chess agitated again, wherein Professor Johnston says, "The Chess is a Bromus, a kind of grass which resembles in its straw the young wheat, but which branches out in the head like oats. Assume with all Botanists, that species cannot be transmuted, and the production of wheat from a Bromus is impossible." Thus far I agree with Professor Johnston. But one thing I venture to assert from ocular demonstration, that oats standing through the winter after being sown in August or September will produce chess. I will state a fact, which, if disputed, I can prove by many witnesses.

In the year 1823 I prepared six acres of new land in the town of Carlton, N. Y., and put on one bushel of clean oats, of the black kind, to the acre. I had a heavy crop of oats, and they were so down that I had to mow them. This was on Saturday, and on Sunday it commenced raining, and continued wet for a week. When the oats were dry, I raked into winrows the same as hay, for on account of the heavy growth of straw and being lodged they could not be bound. This caused them to shell a large quantity, so that the ground was literally covered with the shelled oats. Soon after the straw was gathered, the rains came on which lasted two weeks or more, and those shelled oats which were strewed over the ground very thick, came up and grew rapidly; so that the field had the appearance of a stout growth of wheat. In November there came on a snow which lasted till about January, and then went off, and the oats were as green as wheat; and finally there came another snow which lasted until April, when the snow left the oats as green as ever; and I observed to a neighbor, I should get a great crop of oats. They became very heavy in the month of May and June, so that I supposed that they could not stand up through a shower. I viewed the field on the 1st July and discovered the heads coming forth soon, but none had made their appearance.

On the 3d day of July I examined the field again, and to my surprise I found the whole six acres of oats turned into chess. Not a head of any thing else could be found. This became a common subject of conversation among my neighbors, and when the chess became full, I made hay of it, and a fine crop it was. It probably yielded near two tons to the acre on a part of it. Now whether you believe me or not, these are facts.

* *

REMARKS.

We have not the least disposition to question the veracity of our correspondent, and have no doubt that he has stated the circumstances as they occurred to his observation. It appears to us very questionable, however, whether the oats actually survived the winter, and whether a good quantity of chess did not spring up in the fall with the oats, and whether it was not this, instead of the product of the oats which met the eye in the open weather in the winter, and which grew up into the crop of chess during the next spring and summer.

Our faith in the doctrine of the transmutation of grain whether it be oats or wheat from one species to another is not very strong, though we are willing to submit to the evidence of indubitable facts. One circumstance may lead to caution in forming our conclusions without very careful observation. In some parts of Europe, where a peculiar and very inferior species of wheat, of hardy growth, termed spelt, is much cultivated, it is commonly believed that wheat degenerates into spelt. In other countries, where rye-grass is common, it is the current opinion that wheat turns to rye-grass. In others again, the idea prevails, as in this country, that wheat turns to

chess. Now this is no evidence that *all* these opinions are erroneous—but there is a fair presumption that some of them are—and it might be well if grain growers would, each for himself, make a few careful experiments, to see whether they can produce, by any mode of treatment, such transmutation of species as many believe takes place. In order to be satisfactory, the experiment must be made in ground where there is a reasonable certainty that the seed of chess did not previously exist. A bed in a garden, in which the seed of pure wheat is sown in drills, would furnish a pretty fair test.

For the Michigan Farmer.

MAXIM.—Never beat a horse because you had to run all over the lot to catch him. If you wish to be always sure to catch him take some oats or corn to him, and always give him a chance to eat immediately after being caught. He will soon learn to come to you on being called. A horse has human nature in him, as well as a hog.

JONAS DOOLITTLE.

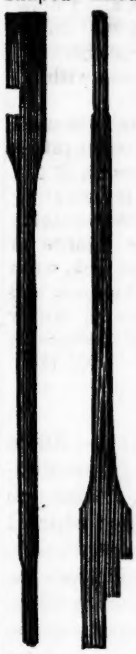
Barn-Door Fastenings.

The following kind of barn-door fastening, described by our very good friend Jonas Doolittle, appears quite convenient. Jonas describes in his own quaint and free-and-easy style, but very plainly withal. We will let him have his own way.

MR. HURLBUT :—

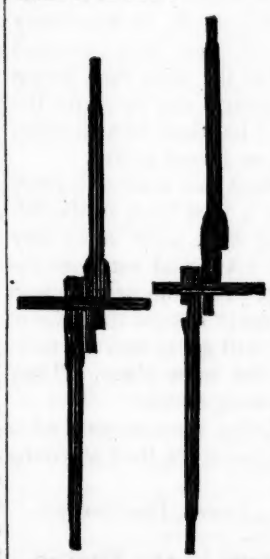
According to your request I will now attempt to describe the bolts for fastening double doors in barns, carriage houses, blacksmith shops, &c.—Their perfect simplicity and convenience, when once seen in operation, is admitted and admired by every one. It should be borne in mind that it is only calculated where two doors shut towards each other, for the one that shuts first; the other being fastened to that by latch, lock, or button, as you please. Fasten a clete to the barn door about four feet from the bottom, and near the edge of the door. I will make the clete for you and furnish nails so that all you will have to do will be to fasten it on your door horizontally.—Here it is.

This clete, through which, or between which and the door the bolts pass, is made of good two inch oak plank, hewed off at each end, as you see, so that the nails need not have so much wood to go through. The oblong place which you see cut out on the side next to the door for the bolts to pass through, is five inches long, and two inches wide. The upper bolt is made of strong light wood, two inches thick and four wide. The length of this bolt is six inches more than the distance from the clete to the timber over the top of the door. Seven inches from the bottom of this bolt, saw an inch into the edge of it and remove the strip from there to the bottom an inch wide. Three inches further down on the same side of the bolt, saw in another inch and remove, also, this strip. Shave the top of the bolt round to pass through an auger hole in the top timber of the door, and into another a size or two larger, bored two or three inches deep into the timber immediately over the door. You have now a bolt shaped liked the cut marked *a*. Take it



b *a*

out to the barn, open the door, put in the bolt, then close the door, shove the bolt into the hole in the timber above it, rest the lower notch of the bolt on the top of the clete. You may leave it there for the present while I make the other bolt which is to hold the bottom of the door, as well as to confine the other bolt in its place. This is three inches wide and eight inches longer than the distance from the clete to the bottom of the door. Saw two places, an inch deep and two inches apart, commencing six inches from the top of the bolt; remove this piece of wood, leaving a bolt, after the bottom of it is rounded shaped like cut *b*. Pass this into the top of the clete, and so on down through the auger hole in the bottom timber of the door, into a larger hole bored into the floor. When you wish to open the door, you have only to raise the lower bolt, hang the notch on the clete which brings the bottom of the bolt even with the bottom of the door, then slip the upper bolt down, which just closes the oblong place in the clete again. The bolts should be sufficiently loose to work easily in any weather, but no more. Let us look at it when the door is open, and then when it is shut.



Door open. *Door shut.*

When the door is shut, nothing can shake the bolts out of their places; there is no other way to open it than to raise the lower bolt first, and when it is open there is no other way to get the bolts out of their places than to raise the upper one first; thus in each case one bolt is kept in its place by its own gravity, and the other by that bolt. I have been thus explicit, because it is generally difficult to describe any thing of the kind on paper. If I have been tedious I am sorry. If I have been intelligible I am glad.

Yours, &c.

JONAS DOOLITTLE.

Oneida, Eaton Co., May, 1845.

P. S. The dimensions can be changed, of course, according to the pleasure of those concerned, or the size of the doors, only take care to preserve the proportions. J. D.

For the Michigan Farmer.

MR. EDITOR :—

The preservative qualities of charcoal are not so generally known as they should be, and I hope you will tell your readers that if they will imbed their smoked beef and pork in pulverised charcoal, they may keep it as long as they please without regard to weather.

Tell them also, that if they will take about a pint of charcoal, also pulverised, and put it into a bag, then put it into a barrel of new cider, it can never ferment, will never contain any intoxicating quality, and will become more and more palatable the longer it is kept. Further, take a piece of charcoal of a surface equal to a cubic inch, wrap it in a clean cotton cloth two thicknesses, and made moist, and work about one pound butter which has become rancid, and it will restore it perfectly. N. H.

Jackson, May 27, '45.

EDITOR OF THE MICHIGAN FARMER:—Since you have desired to have something communicated on the management of bees, I write you the following account of the method which I pursue. I make my hive of the usual size, with a drawer in the top to run in from the front side, about seven or eight inches thick. I have a passage from the hive into the draw, about half an inch wide, and six long. After hiving my bees in the old way, I pull the draw out one inch, and that stops the passage into the draw. I wait till they have filled the hive below, then shove back the draw, and they will fill it also. I then pull out the draw, stopping the passage with a cloth, or something else, and keep it out till they have swarmed once in the spring. Let the draw then be put in, and they will not swarm any more for the season. In this way I let them swarm once, or twice, or not at all, as I may prefer.

When I have a swarm that is about 3 years old, I drive them into a new hive, in the following manner: The next night after they swarm I take the old hive, and set it on the ground bottom side up, place the new hive on the top of it, pound gently around the sides of the old hive and they will go up into the new, then set them up in the same place. They are better than any young swarm.

The reason for driving them so soon after swarming, is because there are then no young bees in the old hive.

JAMES DAVENPORT.

Harrowing Wheat in the Spring.

☞ A correspondent recommends the harrowing of winter wheat in the spring. He says that having one year left his harrow in the wheatfield all winter, he was obliged to drag it across his wheat, when he removed it early in the spring—and that the track of the harrow was plainly perceptible through the season, in the greater thriftiness of that part of the grain. The next year, he harrowed a few acres of his wheat, as early in the spring as the ground would permit, and found the most beneficial effects. The harrowed wheat grew with remarkable rapidity, and turned out decidedly a heavier crop than any other part of the field, though all was sowed at the same time.

The Roller.

The roller is constructed of wood, stone, or cast iron, according to convenience, or the purposes for which it is used. A good, sound oak log, with the frame and shafts appended makes a good roller. Any farmer who has a moderate degree of mechanic skill, and the carpenter's tools which every farmer ought to keep, may readily construct one for himself. They are made of different lengths and sizes, varying from 15 to 30 inches in diameter. The lighter kinds are made in one piece, but the larger and heavier kinds are advantageously made in two pieces, with an iron rod passing through the centre of both, upon which they revolve.

The uses and advantages of the roller are many and important, and no farmer should be without one. They are particularly important in the seeding process, to break down the clods, pulverize and smooth the surface, and to press the earth to the smaller seeds, which otherwise often fail to germinate for lack of moisture. This is particularly the case with the grass seeds. In autumn the roller is sometimes passed over winter grain, with a view to counteract the effects of frost the following winter. In the spring it is advantageously passed over winter grain, as soon as the ground is so solid and dry that the feet of the cattle will not poach the surface. It renders light ground more compact; presses the soil to the roots of the grain, and thus promotes their growth; and upon all soils closes the cracks and fissures which abound on the appearance of dry weather in spring, and by partially burying the crown, causes grain to tiller better, that is, send up more seed stalks. Finally, the roller is of great advantage to grass lands in the spring, by reducing the inequalities of surface, and pressing down the plants or earth which have been thrown up by the frost.

No one need fear that the use of the roller will tend injuriously to consolidate the soil, and neutralize the loosening and pulverizing effects of previous cultivation. We have lately been endeavoring to ascertain the depth to which the influence of the roller extends, when drawn at the usual rate over the surface of the land; and our anticipation that its effect is merely to consolidate the soil for the first inch or two of depth, was fully confirmed.—*Selected.*

Time for Cutting Wheat.

Remember that it has been ascertained by careful experiment, that wheat cut when in the doughy state, will yield more bushels to the acre, more pounds of flour to the bushel, and that of a better quality, than if suffered to stand till thoroughly ripe, besides being sometimes saved from loss by rust and shelling.

Domestic Economy.

From the Ohio Cultivator.

Butter Making.

It requires no particular skill to skim milk at the right time, to churn, to work, salt and pack it. Any sensible woman can do it all and do it well, but still they must take pains, they must be careful. Careful to skim the milk before the cream gets bitter; in warm weather, to cool the milk as soon as it is strained and before it is set in pans—no very hard task, but a very important one, as I have learned from my own experience. Then they must be careful to churn before the cream stands too long, for if the cream contracts any bad taste it will continue in the butter. Be careful to work out all the buttermilk, and work the salt well in. Use none but the purest dairy salt, use it freely; there is more danger of making the butter too fresh than too salt. If packed in the firkin at the dairy, as it always should be, an inch or two of clear strong brine should be put over each layer until it is filled. If intended to be kept long before bringing to market, the firkin should be put into a cool cellar, set upon end, a small hole bored through the head, a few handfulls of coarse salt, not common Salina, but the solar evaporated, put upon the head, and the head filled with pure brine. When sent to market, the hole should be plugged up with the brine in, and the salt taken off clean. By following these directions, May butter will be sweet and good when May comes again. But observe that the firkin must be thoroughly seasoned, and soaked in brine before the butter is put in, and that more butter is spoiled in the cream than any other way. In warm weather the cream will become tainted before a person is aware. This much for dairy butter.

Store Butter may be very much improved if the merchant will take more care. He should have at least three tubs of pure brine, into which he should put his butter as he takes it in, washed over carefully, re-salted and packed in the firkins as directed for the dairy, and managed in all respects in the same manner. By all means sort your butter as it comes in, for you will be enabled to have it uniform in the firkin, a very desirable object in market. If any one should send butter, I hope they will conform to the foregoing suggestions, and if it does not come into market in good condition, it will be the first time I have known them to fail.

T. C. PETERS.

Buffalo, January 14, 1845.

To make Cream Cheese.—Take of the top or surface cream that has been collected three or four days in the cream-crock so as to be slightly acid, one pint: on each of two common plates lay a dry napkin, four-doubled: put half a pint of cream on each napkin. Next day, have ready another, covered with a folded wet napkin, turn the cheeses one on top of the other upon the wet napkin, cover them over with the ends of this wet napkin, and change it every day for a week till the cheese is ripe. It must not be done in a cellar or damp place, but in a room, otherwise it will mould.

A recipe for green corn pudding was published in the last vol. of the Farmer, essentially different however from the following. That was said to have proved too rich.

Recipe for Sweet and other Corn Pudding.—To four dozen ears of corn, (corn to be scored, and then scraped from the ear,) add three eggs, two spoonfulls melted butter, one tea-spoon full of salt, two large spoonfulls of sugar, one quart of milk, and bake by a steady fire, in tin or earthen pans, two hours and a half, so that the top shall bake brown; then with sweet butter you can have a most sumptuous repast. It is a Nantucket dish, and in corn season is as much the ruling *dish* as are buckwheat cakes in their time. Try it.—*Genesee Farmer.*

Lemon Pies.—In this year of scarcity of fruit, it may be desirable to know that a good pie can be made simply of lemon and molasses. Press out the juice of a lemon into two teacups full of molasses, grate in the dried peal of another, cover a plate with a layer of crust, spread over some of the mixture—lay on a thin crust, spread another layer of the mixture, and over that lay a top crust—bake thoroughly, and you will have an excellent and wholesome pie. One lemon will make two pies.

Muffins.—Take 3 pints of flour, 1 pint of water lukewarm, 1 tea cup full of baker's yeast, 1 great spoon full of sugar, 1 tea spoon full of salt—make them up in the morning for tea, or at night for breakfast, and bake them in muffin rings.

To kill Flies.—If a plate full of strong green tea, well sweetened, be placed in an apartment accessible to flies, they will taste of it, and be killed thereby, as surely as by the most approved fly-poison.

Milk set in glass milk-pans is said to produce much more butter, and that of a better quality, than when set in other pans. Those used are made of the common green bottle glass.—*West. Far. and Gard.*

What is the use of patience if we cannot find it when we want it?

The Alpaca.

Among the beautiful and useful animals least known to the civilized world, is the Alpaca, a native of the interior of Western South America. It has the characteristics of the sheep, being larger, however, and its wool much longer. The beautiful, substantial fabrics for ladies' wear are mostly made of Alpaca wool.

We are happy to learn that a few enterprising wealthy gentlemen of this State (New York) are about to import a lot of Alpacas from South America, this season. They are said to clip about 10 lbs. of wool, worth from 25 to 30 cents per lb. per head. They are very hardy animals, and those taken to England have done remarkably well. Several millions of pounds of Alpaca wool are annually imported into Great Britain. It is made into mouslin de laines, and a variety of other fabrics, being long, fine, and almost of a silky texture. We doubt not that the Alpaca will prove a valuable acquisition to our present stock of domestic animals.—*Gen. Farmer.*

Depth of Roots.—In light subsoils, the roots of trees have been found at a depth of 10 or 12 feet; roots of the Canada thistle have been traced 6 or 7 feet below the surface. Wheat, in a rich mellow soil, will strike roots 3 feet downwards, and much further horizontally. The roots of oats have been discovered 18 inches from the stem, and the long thread-like roots of grass, still further. The fine roots of the onion, being white, and easily traced in black soil, have in trenched soil been followed two feet deep. The importance of a mellow soil for these fine roots to penetrate, is obvious.

MICHIGAN FARMER.

JACKSON, JULY, 1845.

The New Post Office Law.

By the provisions of this law the following method is designated by which subscribers may forward their dues to publishers. The money is deposited with a Postmaster who gives a receipt for the same, and then informs the P. M. at the place of publication, that such an amount has been received,—the subscriber sends his receipt to the publisher, who takes it to his Post-office, and receives the money. Thus all risk is avoided.

All general communications from subscribers relating to the Farmer, will hereafter be addressed, "Michigan Farmer." Those of a private nature, to "H. Hurlbut." On the former, the postage is expected to be invariably paid.

A Word to the Friends of Agriculture.

We return our cordial thanks to those correspondents, whose communications have added so much of interest and usefulness to the pages of the Farmer; and have only to wish that their example were followed by a still greater number.—Our paper now numbers among its subscribers, farmers from almost every quarter of the State, and on every variety of soil and situation. From the prairie, the opening, and the timbered land, there are many experienced and observing men, whose collected experience could not fail to be of the greatest benefit to themselves and to their brother farmers. There can scarcely be any of these, who could not, on some of the numerous departments of husbandry, communicate some fact, or make some practical suggestion, which is not generally known, or sufficiently appreciated by others. Again, there are believed to be comparatively few, who have not some point, on which they would like to have the opinion of sound practical farmers, of perhaps more varied or longer experience than themselves: and among those of equal experience the method of one is best on one point, that of another, on another.

We throw open our columns for a general and free interchange of views and experience among the farmers of Michigan. This is the main design of the paper. If any one wishes for information on any subject, a letter of inquiry through our columns, can scarcely fail of receiving, from some quarter, a satisfactory answer. And we would invite the friends of agricultural improvement every where, (and who is not one?) to do each his part in this matter, not grudging the expenditure of a little time and thought for the promotion of so noble a cause.

☞ In requesting that communications designed for publication be forwarded by the 15th of the month previous, we did not wish it to be understood that we could publish none which might arrive at a later day. It is convenient to have them as early as may be, but those reaching us by the 20th or even 25th, can generally be inserted.

XUM

Colman's European Agriculture.

We acknowledge, with gratitude, the receipt from the author of the third number of this invaluable work. It treats largely of the subject of Agricultural education, containing descriptions of several Agricultural schools in Ireland and England visited by the author, with some details of the plan of education pursued, and of the economical arrangements for the support of the pupils. They are, for the most part, strictly manual-labor institutions, the pupils being employed in farm work a certain portion of each day, by way of defraying the expenses of board and tuition. This is an interesting subject, and handled as it is by the author with his accustomed ability, can scarcely fail to attract increased attention in this country. The State of New York has already moved in the matter, and we venture to predict that within ten years, most of the States of the Union will have established their Agricultural schools. We have now schools of law and medicine, schools for the learning of languages, living and dead, in abundance; but none for instruction even in the first principles of that profession, which to understand thoroughly, requires a course of education, little less extensive than any other, and which, embracing, as it does, the mass of the people, is of importance paramount to all. This should not so be. An agricultural school, with a model farm attached, where theory and practice can go hand in hand, where Experiment can be guided by the light of Science, is an institution of such vast and evident utility, that it is matter of surprise it has not sooner found a place among the improvements of the age.

At present we have room but for a brief extract. In our next, we shall give the author's plan of an agricultural institution for this country. Our readers are referred to our last page for the terms and conditions of Mr. Colman's work. It would give us pleasure to forward to the agent the names of any who may wish to add this tasteful and sterling publication to their libraries.

From Colman's European Agriculture.

Natural Science.

Every possible facility should be provided for the study of every branch of natural history, for every branch of natural history may be made subservient to agricultural improvement. There is, in my opinion, nothing which so invigorates and strengthens the mind as earnest and deep inquiries into nature, the study of natural facts, the observation of natural phenomena. There is no knowledge, especially to persons residing in the country, which affords so many practical uses and such varied and important application. The man who studies books exclusively is always liable to be the slave of other men's opinions; and his mind, losing by such restraints its native elasticity, never travels out of its prescribed limits. The man who goes himself to the original sources of knowledge, and draws water out of the very wells of life, acquires a force of inquiry, maintains a healthful freshness of mind, which grow strong continually by what they feed upon, multiply for themselves the sources of knowledge, turn every object and occurrence which they meet with into an instrument of instruction, and find the world and nature no longer a dull, desolate, inanimate chamber, but its walls all over radiant with lessons of wisdom, and every object with which it is crowded vocal with the teachings of a divine spirit.

I do not overrate the value of natural science to the agriculturist, the resident in the country. For him it is the proper study for use, for ability, for recreation, and for ornament. There is yet much to be done in agriculture. I believe that the quantity of the products of the earth from the same extent of surface may in most cases be quadrupled, and that the number of its productions for the sustenance of man and beast may be multiplied far beyond any present calculation. If we may argue from what has been doue to what may be done, the perfection of agriculture is yet very distant, and vast improvements remain to be made. But this can only be effected by bringing vigorous and enlightened minds to bear upon the subject; and the natural sciences are those which of all others best prepare and strengthen the mind for such investigations. The best education which can be given to any man is not that which merely communicates knowledge, but that which enables and induces a man to acquire knowledge for himself. This is what the study of the natural sciences particularly prompt and compel a man to do. These studies, pursued especially in the country, where Nature in such a variety of aspects is continually offering herself for examination, give a vigor and activity of mind which particularly qualify men for practical objects and pursuits.

Hon. H. L. Ellsworth.

The friends of agriculture will regret to learn that this gentleman has resigned his post of Commissioner of the Patent Office, which he has filled with such distinguished ability and usefulness. It is gratifying however to know that he is still to have some supervision over the agricultural portion of the annual Report. It is said that he goes to Indiana to turn practical farmer. May he reap bountiful harvests!

To kill Sorrel.—Apply a liberal dressing of lime. This done when the pest first appears, before it has spread itself over the field,

is both a cheap and effectual way of eradicating it. Try it, and you will find your sorrel patches thenceforward for many years the most productive portions of your land.

Rust in Wheat.

We had prepared an article on rust or mildew, but find room at present only to mention two approved remedies.

One, and the most effectual, is to sprinkle the wheat with a strong brine, by means of a brush—passing through the field backward and forward as in sowing grain. This will, within 48 hours completely remove the rust, though ever so bad, and restore the grain to a healthy condition. Two men, one to furnish the brine, and the other to scatter it, will go over effectually four acres a day. The proportion of salt required is one pound to a gallon of water.

The other more easy remedy is to cut the grain as soon as struck with rust. If then in the milky state, it will fill better, when the rust is bad, than if suffered to remain the usual time untouched—for by cutting, the further progress of the rust is prevented.

There being, this season, generally a moderate growth of straw, owing to the effects of drouth and frosts, there is probably little danger of the extensive prevalence of rust.

The Hessian Fly.

The insect, mentioned in the last number, as the one chiefly destructive to the wheat crop in this state, is none other than what is commonly denominated the Hessian fly *(cecidomyia destructor)*. Some further account of it, and of the expedients recommended for preventing or mitigating its ravages, may be desirable. The following remarks are principally gathered from a communication made by M. E. Herrick, of Connecticut to the Commissioner of Patents, and published in the report of the latter for 1845.

The Hessian fly made its first appearance in the United States during the Revolutionary war, and was supposed to have been brought over in wheat straw by the Hessian troops. This supposition is probably erroneous, as it is not certain that this insect had ever been known in Europe, or at least in that part of Europe previous to that time: but hence the name. In the course of a few years, the fly was found in all parts of the country where wheat was cultivated, and notwithstanding the attention that has been given to the subject all efforts to devise an effectual remedy have been baffled, and the evil has prevailed to a greater or less extent from that time to this.

The Hessian fly is a two-winged insect, with head, eyes, and thorax black; the head is small, and depressed; the palpi, (or mouth feelers) are three or four jointed—the basal one being the smallest; the antennæ are about half as long as the body, and consist each of from 14 to 17 oval joints, besides the basal joint, which appears double; the wings are large, hairy, and rounded at the tip; the abdomen is of a tawny red, and furnished irregularly, with many black hairs, consists of seven rings or segments, besides the ovipositor, which is of two sides, and of a rose-red color; the ovipositor, when extended to the utmost, is about one-third as long as the abdomen; length of body, from the front of the head to the end of the abdomen, about one eighth of an inch; the legs are long and slender, pale red, and covered sparsely with dark hair. The male is equal in size to the female, but generally less black, with antennæ somewhat longer, and about three-fourths the length of the body. The joints of the antennæ are globular, and slightly separated from each other.

"The eggs are laid in the long creases or furrows of the upper surface of the leaves (i. e. the blade or strap-shaped part) of the young wheat plant. While depositing her eggs, the insect stands with her head towards the point or extremity of the leaf, and at various distances between the point and where the leaf joins and surrounds the stalk. The number found on a single leaf varies from a single egg up to thirty, or even more. The egg is about a fiftieth of an inch long, and four-thousandths of an inch in diameter, cylindrical, rounded at the ends, glossy and translucent, of a pale-red color, becoming in a few hours, irregularly spotted with deeper red. Between its exclusion and its hatching, these red spots are continually changing in number, size, and position; and sometimes nearly all disappear. A little while before hatching, two lateral rows of opaque white spots, about ten in number, can be seen in each egg. In four days, more or less, according to the weather, the egg is hatched; the little wrinkled maggot, or larva, creeps out of the delicate membranous egg skin, crawls down the leaf, enters the sheath, and proceeds along the stalk, usually as far as the next joint below. Here it fastens, lengthwise, and head downwards, to the tender stalk, and lives upon the sap. It does not gnaw the stalk, nor does it enter the central cavity thereof; but, as the larva increases in size, it gradually becomes imbedded in the substance of the stalk. After taking its station, the larva moves no more, gradually loses its reddish color and wrinkled appearance, becomes plump and torpid, is at first semi-translucent, and then more and more clouded with internal white spots; and, when near maturity, the middle of the intestinal parts is of a greenish color. In five or six weeks (varying with the season) the larva begins to turn brown, and soon becomes of a bright chestnut color. In this state, the insect bears some resemblance to a flax seed; and many observers speak of this as the *flax-seed* state. The larva has now become a chrysalis, or pupa, and takes no more food. The pupa within gradually cleaves off from the outer skin, and, in the course of two or three weeks, is entirely detached from it, so that the skin of the larva (now brown and hardened, and of a sort of leathery texture) has become a case or shell for the pupa inside.

The *pupa skell* is, of course, in size and form, like the larva: it is oval, bulging out beneath, and of the same curve above as the outside of the stalk; divided by cross lines into twelve segments, and is about an eighth of an inch long. Within

this shell the pupa gradually advances towards the winged state; it contracts in length, but not in breadth; and its skin appears covered with minute elevations, Just before evolution, we find the pupa invested in a delicate membrane, or scarf, (which, not long previous, was its outer skin,) through which many parts of the future fly may be distinctly seen. Finally, this scarf splits along the thorax, or back, and the insect comes forth, both from this and the pupa shell, a perfect two-winged fly.

This is, in brief, the history of an individual which has been so fortunate as to escape all the numerous enemies with which its race is surrounded from the moment the egg is deposited; but of these, more hereafter.

In the Northern and Middle States, at least, winter wheat is sown in September or October. Soon after the plants have appeared above ground, the Hessian fly begins to lay her eggs upon them; and this operation is continued during several weeks, according to the season. The eggs laid on the green leaves are in a few days hatched, and the young larvæ crawl down the stalk, and take their stations; generally clustering around the stalk at the nearest joint below. Here, by sucking of the plant, they increase in size, become full and hard, and, pressing deeply into the stalk, they impair its growth; and if their number about one joint is large, the stalk is killed. Frequently the plant, although impoverished, advances for enough to head out; but when the grain begins to fill, its own weight, or perhaps the wind, causes the stalk to break down. The injury done to the wheat is occasioned by the exhaustion of the sap, and by the pressure on the yielding stalk.

In five or six weeks the larvæ stop feeding, the outer skin turns brown, and within this brown and leathery case the pupæ pass the winter—generally a little below the surface of the earth. In April and May the fly is again found depositing her eggs on the same wheat, (viz: that from grain sown the preceding autumn,) and also on the spring wheat which has just come up. These eggs hatch, and the larvæ therefrom operate in the same manner as those of the autumn previous. The larvæ become pupæ about the middle of June. The flies which lay their eggs in the spring are probably in part from the pupæ which became such late in the preceding autumn, and partly from the pupæ contained in stubble left the preceding summer. The period of the existence of the Hessian fly in the pupa or flax-seed state is exceedingly variable. After much observation, my own opinion is, that, in general, pupæ which become such late in the autumn evolve the winged insect partly during the next spring, and partly in the summer and autumn following. Those pupæ which become such about June evolve the winged insect partly during the next autumn and partly during the year succeeding.

The Hessian fly is attacked by numerous foes, which, in various stages of its existence, destroy a large part of every generation. Whether it has, in its winged state, any enemies, except the ordinary destroyers of flies, I know not. The eggs, while lying on the leaves of the young plant, are visited by a very minute four-winged insect, (a species of platygaster,) which lays in them its own eggs. From later observation, it appears that, occasionally, as many as five or six eggs of this parasite are laid in a single egg of the Hessian fly. The latter egg hatches and becomes a pupa, as usual; but from the pupa case, instead of the Hessian fly, issues one or more of these minute parasites.

The pupæ, while imbedded in the stalk, are attacked by at least *three* different minute parasites, (four-winged hymenoptera) which, boring through the sheath of the stalk, deposite their eggs in the body within; and the latter is finally devoured by the parasite larvæ. These are the principal means by which the multiplication of the Hessian fly is restrained within tolerable limits."

Mr. Herrick then proceeds to speak thus of the following remedies which have been from time to time proposed:

1st. Steeping the seed wheat in elder juice, solution of nitre, boiling water, or other liquids; or rolling in lime, ashes, or some other substance, in order to kill the eggs. But as the eggs of the Hessian fly are not on the seed, they will never be hurt by such processes. So far as these means give vigor to the plant, they may be of some little service.

2d. Sowing seed obtained from places in which the insect has not made its appearance, (American Museum, iv, 47.) This recommendation also assumes the error, that the eggs are laid on the grain, and will be found, as it has often proved, useless as respects this insect.

3d. Abstaining rigidly throughout the whole grain-growing region of North America from planting wheat, rye, barley, or oats, for one, two, or three years, and thus to starve out the insect! This plan might be effectual, but would obviously involve some inconveniences.

4th. Manuring the land very highly, so that the plants will grow vigorously, and be sooner out of the way of the insect, and also better able to resist it. This proposal has some merit, but does nothing towards destroying the insect.

5th. Sowing some variety of bearded wheat, flint wheat, &c., supposed to have a harder and more solid stalk than common wheat, and better able to withstand the impression of the larvæ. A suggestion of some value, but, equally with the 4th, leaves the insect unharmed.

6th. Fumigating the wheat field, and sprinkling the young wheat with infusion of elder and other steeps. If successful, which is quite uncertain, it is plain that these measures are impracticable on a large scale.

7th. Sowing winter wheat very late in the autumn, so that the fly shall have mostly disappeared before the plants are large enough to be attacked. No doubt this plan is to some extent useful, but the wheat sown late is in great danger of perishing during the winter. The fly will of course attack it in the spring, yet one attack will do less damage than two.

8th. Sowing oats early in autumn on the intended wheat field. It is supposed the fly will lay its eggs on the plant; then let them be ploughed in, and the wheat sown. The fly having nearly exhausted itself on the oats, the wheat will suffer less. This plan may possibly be of some partial utility.

9th. Drawing a heavy roller over the young

wheat, both in autumn and spring. This process must be useful, in crushing many eggs and larvæ.

10th. Permitting sheep and other animals to graze the wheat fields while the insects are laying their eggs. By these means, large numbers of the eggs will be devoured with the leaves.

11th. Burning the stubble immediately after harvest, and ploughing in the remains. This is by far the most practicable and effectual mode of exterminating the insect, or, at least, of checking its increase. In the stubble are many pupæ of the fly, at this time completely in our power; if, in reaping, the stubble is left high, the fire would sweep rapidly over a field, and destroy nearly all these pupæ; the few which escaped the fire would, by the plough, be buried so deep as to perish in the earth; mere ploughing in of the stubble must be highly useful. If the two recommendations last named were thoroughly put in practice over the whole country—not only upon wheat, but also on rye and barley, and any other plants attacked by the Hessian fly—the ravages of this insect would, in all probability, ere long, become scarcely worthy of notice.

Prevention of Smut in Wheat.

It is stated, on authority that, it is believed may be relied upon, that wheat grown from seed which was thoroughly ripe before cuttiug is much less liable to be affected with smut, than that grown from seed which has been cut earlier.—Farmers who have adopted this practice, it is said, are seldom or never troubled with smut. To make the best flour, wheat is usually cut a little before its full maturity, and such is generally used for seed. This may be one cause of the extensive prevalence of smut, though there are unquestionably others. It is recommended to defer cutting the portion designed for seed about a week later than the rest of the crop, until the berry shall have become perfectly ripe. This measure of prevention is one which may be adopted with very little trouble, and is believed to be richly worth the trial.

We shall speak more fully of the causes and prevention of smut in our next.

Change of Seed Wheat.

If wheat growers would take a little pains to obtain for seed, wheat grown on a different kind of soil from their own, (which in this country is easily done) they would find their crops improved. This is a well established-fact in Agriculture, and of sufficient importance to deserve more attention than it generally receives.

Bee Palace.

We have just been shown a model of an apiary, invented about a year since by Leman Hamlin, of Ohio, which appears to combine more advantages than any which ever came under our observation. It is entitled a bee palace. The hives are arranged around a six or eight sided upright cylinder, with a central vertical opening, which is made to afford an opportunity for ventilation. There is also a very simple and ingenious contrivance for catching the bee moth, which, with the peculiar manner of constructing the hives, it is thought will afford complete protection to the bees, against this destructive enemy. A palace embracing a diameter of 4 feet will contain 24 large swarms. Its neat and tasteful manner of construction makes it a highly ornamental appendage to yards, and adapts it to use in villages as well as in the country.

The agent is about to visit various counties in the State to dispose of rights; for the invention is patented.

Corn stalk Sugar.

The following article on this subject, referred to in our last nvmber, is taken from the Southern Cultivator:

"With regard to the culture, it is stated that Corn should be planted as Broom-corn is commonly planted, very close in the row, probably a stalk every three or four inches. The tillage will be the same as for Broom-corn. When the young ears begin to appear, it is necessary to pluck them off carefully, and to repeat the gathering as often as necessary, so as *to prevent the formation of any grain*; because, if grain be allowed to form, it takes all the sugar from the stalk. About the time the corn begins to harden, the making of Sugar should be begun.

"It is not necessary to say anything about a proper mill to crush the stalks and separate the juice, because mills of the cheapest kinds only should be employed now, until the business would fully warrant an expensive outlay. It would probably be found that the common cider mill, with plain cylindrical nuts, would be quite sufficient for the farmer who would raise a fourth or half an acre of Corn for Sugar, for his family, and this quantity would be quite sufficient for satisfactory experiment.

"When the juice is separated from the stalk, about a tablespoon full of whitewash, made of the *best quick lime*, and about the consistence of thick cream, should be added to each gallon of the juice, and then the boiling should commence. The scum that rises should be carefully removed; and the juice; if this process has been properly conducted, will be quite clear, nearly colorless. Then commences the process of evaporation; and when the juice has boiled down in about the proportion of eight gallons to one, the boiling will be completed, and it may be poured out into a shallow, tight wooden box to grain.

"It has been ascertained, although as yet the reason is not known, that if the juice be boiled in a deep vessel, like the common cooking vessel, sugar will seldom be obtained; while, if it be done in a shallow vessel, so that the juice at the commencement of the boiling shall not be more than three to five inches deep, sugar would be obtained without difficulty. It has been ascertained, also, that the sugar from Corn will not grain so readily as that from the sugarcane; and in some instances, it has remained more than a week after the boiling, before the sugar was formed, and yet excellent sugar was made.

"It should be particularly remembered, that the juice should be boiled as soon as separated

from the stalk. It becomes acid very soon, and no Sugar can be made if the juice be allowed to stand two or three hours before it is boiled. The juice will even spoil in the stalk before it is ground, if the stalks be cut off a few hours before grinding. It is necessary, then, that every part of the process should be done with the greatest despatch. The stalks should be brought to the mill as soon as cut, and ground immediately. The vessel for boiling ought to be properly filled in two hours grinding, and the process of boiling down should immediately commence, and be continued until completed.

"Excellent Syrup, superior to the best Molasses, will be obtained by observing the above directions, and boiling five gallons of juice to one gallon.

"The juice of the Corn-stalk is very rich in Sugar, when cultivated in the manner suggested. Tested by Beaume's Sacharometer, the instrument used to measure the strength of syrups, the juice of the Corn-stalk weighs 10 to 10½ degrees, which is about the weight of the best cane in the West Indies, and is richer than the juice of the cane in Louisiana, which is seldom heavier than 8½ degrees.

"One gallon of juice will produce nearly 1¼ pounds of Sugar; and one acre of good Corn will yield, if carefully expressed, from 700 to 1000 gallons of juice."

I have but little information to add to the above article. My kettle holds eighty gallons, though a sixty gallon kettle might answer the purpose, but probably it would be best to procure a shallow vessel, as above recommended for making Sugar. I made three boilings before I made good syrup, not boiling down sufficiently the two first boilings. Prepare yourself with a skimmer, a gourd with a long handle will do to remove the scum when it begins to boil, and for a short time after. Leave off skimming when you see the dark glutinous scum is pretty well removed. Also, prepare yourself with an iron ladle, with an iron handle attached to it about three feet long, (which any blacksmith can make,) perforated with small holes. Whoever attends the kettle must use this ladle, in raising the juice with it, when likely to boil over. When the juice boils down considerably, you will see the bubbles begin to show and burst on the surface. When you see a few such bubbles, if it be your object to make syrup, I think then is the time to take it out; but if you wish the syrup to granulate, boil till the bubbles become general on the surface. You can also test it, by dipping out some syrup with a tablespoon, and when it cools sufficiently, by taking it between your thumb and fore finger; and if it inclines to rope, it is syrup, but if it will rope about an inch it will granulate. You can boil rapidly at the commencement while the juice is thin, but as it thickens boil with more moderation. If you boil too rapidly after the bubbles begin to burst on the surface, you will certainly burn it, and it will give it a candy taste. Throw in the whitewash made from the lime, immediately after you quit removing the glutinous scum. When you have boiled to satisfy yourself, take out the syrup and put it in some shallow vessel to cool. I am inclined to think, when the juice has been extracted from the stalks by a wood mill, that if they were chopped up and boiled in water, good vinegar could be made from them.

Production of Wheat.

The following extract from a communication in the April number of Hunt's Merchant's Magazine, by J. R. Williams, of Michigan, contains so much of important truth, well put forth, that we cannot forbear transferring it to our columns:

"Whilst there are nations on the Globe which do not produce bread stuffs adequate to the support of their population; while there are other nations, abundantly prolific in grain, whose productive masses are mostly deprived of their necessary share, by the triple exactions of landlords, churchmen, and tax-gatherers, and are driven for subsistence to the consumption of coarser grains and vegetables; there is one nation, whose annual superabundance crowns the labors of the husbandman, and where the toilworn laborer grasps for himself the choicest of the bread stuffs he produces. What would be a luxury to the mass of European laborers, is in this country a common article of food.

"The wheat growing region of the United States, now wholly, or partially inhabited, stretches over twenty degrees of longitude, and ten degrees of latitude, and embraces 500,000 square miles, or 320,000,000 acres of land.

"A few years since, the marketed supplies of wheat and flour were entirely from the Atlantic states. Now the crops of territories, then unknown and unsettled, fix the price. The greatest wheat growing state is now Ohio. A blight in the crop of Virginia or western New York, in times past, has caused great fluctuations in price. At this day the crop of a whole state may experience a blight, or, indeed, be almost desolated, without making a perceptible difference in the average value. It is not within the range of probabilities, that in any future year the whole crop will be so far destroyed, as not to leave abundant production for all home and foreign demand likely to exist. The beneficent provision of Providence seems vouchsafed to this land, that its people shall be fed—and fed abundantly, for as long a period as human foresight does penetrate.

"During the last two years, the price of flour was ruinously low—hardly repaying the cost of production. The farmer, the merchant, and the politician, each offers his nostrum, which, if plenteously administered, will cure all the evils under which the wheat farmer staggers. The farmer too often attributes a depression in price to combinations among dealers, or other local causes, operating within the six square miles where he happens to reside. The merchant sagely issues his numerous circulars, setting forth his speculations, rarely verified by time, and sometimes proving delusive before they arrive at their destination. One set of politicians repose principally on our own country for a market, and another tell the people, that if the Tariff was repealed, vast, all devouring markets would fly open, and sweep into their ravenous jaws, all, and more than all we could produce.

"The real explanation lies in the fact, that too large a portion of the industry of the country has

is sad to see the owner of a large farm pride himself on the number of acres which he possesses, and undertake to cultivate the soil without sufficient means. Such a man has been happily compared to a merchant, who expends all his capital in building for his own use a large and roomy store, and is afterwards seen gazing complacently on his bare walls and empty shelves.

He has chalked out to himself a hard lot, and voluntarily enters on a state of servitude, worse than Egyptian bondage. His work is never accomplished. He toils all hours and yet is never ahead of his work, and his work is never half done. He has no time to accomplish any thing thoroughly. His house is out of repair, his barn dilapidated, his cattle poor, his fences in ruins, his pastures overrun with bushes, and acres of land, which, under proper cultivation, might be made to yield a rich harvest, are but little removed from barrenness, perhaps dotted with mullen, burdocks, thistles, or filled with sorrel, white weed, and other noxious plants, which root out the grass, and eat up the life of the soil, without affording nourishment to man or beast.

What a harassed, unhappy being must be the owner of such a farm! He has no time for recreation or mental improvement. He is doomed to the treadmill for life; with his spirits depressed—despondency stamped upon his haggard lineaments, and the worm of discontent gnawing at his heart; with him there are no pleasant associations with the *past*, the *present* is full of anxiety, care, and hard labor—and a dark cloud rests upon the *future*. He reminds me of Hood's touching "Song of the Shirt"—and it may be well said or sung of him—

"Work—work—work!
From weary chime to chime;
Work—work—work!
As prisoners work for crime—
Plow, and harrow, and hoe!
Hoe, and harrow, and plow!
Till the heart is sick, and the arm benumb'd—
And misery stamped on the brow.

Such a man has little reason to pride himself on his extensive possessions; and paradoxical as it may appear, he would in nine cases out of ten, add to his riches as well as his enjoyment, by giving away one half of them at least. He is in the true sense of the word, miserably poor, in fact a slave; and when his eyes are opened to his real condition, it is no wonder that he is glad to emancipate himself, by selling his farm for what he can get, and escape, post haste, to Texas or Iowa. [Extract of an address by John S. Sleeper, Editor of the Boston Mercantile Journal.]

A field requires three things; fair weather, good seed, and a good husbandman.

Wheat designed for flouring will yield more bushels to the acre, more pounds of flour to the bushel, and that of a superior quality, if cut while the kernel is in the doughy state, than if suffered to stand till thoroughly ripe. This has been tested by accurate experiment.

Gleanings from the Agricultural Journals.

Soiling Cattle.—The following advantages are said to be derived from soiling cattle. 1st. No cross-fences are required on a farm. 2d. The cows give twice the milk as when running at large. 3d. They are fit for the shambles in the fall, being fat. 4th. They are always ready to be milked. 5th. They are never worried by being driven to and from the pasture. 6th. They eat all the refuse grass, which would otherwise be lost. 7th. Eight acres will keep them longer and better than 40 would, depastured. 8th. The fields are always in order, not being poached by their feet in wet weather. 9th. The person is not much longer in cutting their food and giving it to them, than he would be in driving them to pasture. 10th. Manure enough is saved to pay the interest on a large farm. Numerous other good reasons might be given if the above are not considered sufficient.—*Am. Ag.*

Manure Making.—Cart a load of loam, (marl or marsh muck is still better,) near the outlet of the sink, and carry the spout to it; shovel over the heap occasionally, and in six or eight weeks the mass will be enriched, and a fresh lot may be brought to undergo the same process. Thus in the course of the year, several loads of good manure may be made at a trifling cost. This hint is worth something.—*N. E. Farmer.*

To ascertain the lack of lime in soils—Take a handful here and there from the field, say twenty handfuls in all, and mix it together; then take a handful from the whole, put it on a shovel, and heat the shovel red-hot; then take it off, and let it cool. When cold, pulverize it, and pour upon it diluted muriatic acid—or in want of that, good vinegar. If it foams considerably, there is plenty of lime; if it does not foam, lime is wanted.—*Ib.*

Remedy for Colic in Horses.—Dissolve a piece of opium, about two-thirds the size of a hazelnut, (say about twenty grains,) in half a pint of brandy, and pour it down by the usual method of a bottle, or horn.—*Ib.*

Heaves or Thumps in Horses.—This is thought to be brought on by feeding too much in bulky or rough food, as corn blades, straw, &c. The faster work you give your horses, diminish this kind of food, and more of grain, in small quantities, feed often.—*Ib.*

been bestowed on wheat culture—too much wheat land cultivated—too much wheat produced. The tide of emigration has recently submerged a vast territory, whose soil is highly productive of wheat. Much of the newly subdued land, like the burr oak openings, or park country, of Michigan and Wisconsin, is found, by analysis, to be composed of the very elements most conducive to the nutriment of wheat. No single crop seems to promise so ample a return for labor as a crop of wheat. In the cultivation of wide wheat fields there is something peculiarly inviting. The farmer always rejoices in the sight of the golden ocean, waving around him to every breeze. He counts only the gross sum his bushels will repay him, and forgets the little gains which the same labor, if thriftily bestowed, would more certainly accumulate. He sacrifices his ultimate interest, and a thousand comforts, for the sake of commanding one single large crop of wheat. Fields of 200 or 300 acres are not uncommon, and occasionally 500 or 600 acres are put under a single fence. Foremost of the evils resulting from this system, is the disappointment of the farmer in the average yield per acre. The capabilities of western soil may not be overrated—the production certainly is. A large section of wheat growing country, with which the writer is familiarly acquainted, has not yielded an average for five years of more than fifteen bushels per acre: and the most successful experiment he has ever known, was the production of 6,000 bushels on 200 acres of land, or 30 bushels per acre. Fewer acres, better fenced, pulverized, and manured, all time has taught, is better husbandry. Production per acre, in many parts of the great West could easily be doubled. The wheat farmers life is captivating, also, because affording so many weeks of leisure during the year. But from the earliest days of harvesting, till the next crop is "put in," his life is exceedingly laborious—a year's toil seems crowded into a quarters space. In the most recently settled sections of the country, yet dismally afflicted with diseases generated by miasma, hundreds are often prostrated by sickness in the very exigency when their labor is most required; numerous instances have occurred, where large quantities of grain have been lost for want of harvest hands.

"Such results would seem to inculcate deeply the lesson, that employments should be multiplied, and a diversity of crops raised, and reliance no longer be placed in a single, and that a precarious crop. But the lesson passes off with the occasion, and the same ruinous course is persisted in from year to year, an error if committed by too many wheat farmers, that cannot be persisted in with impunity.

"In no soil on earth, unless in some portions, where, by annual inundations, or otherwise, the soil is renovated, is there sufficient nutriment to yield successively, for a course of years, the same crop, and that an exhausting one. Our own Cotton and Tobacco planters, in overtasking the soil, have been taught a severe lesson by their own temerity. Their formerly cultivated fields are often a scene of desolation—utterly abandoned—scarcely a vestage of former habitation, or cultivation remaining—a sad and serious lesson to show that nature's integrity cannot be slighted nor violated. Wheat growers, in their ill-judged eagerness for rapid acquisition, may sacrifice ultimate prosperity, if they do not, like the Southern Planter, sacrifice property in the soils and the homes of their childhood. In England and France, it would generally be esteemed bad husbandry, to raise a wheat crop from the same soil oftener than once in three or four years. Wheat is alternated with green crops and every precaution is taken against exhaustion: even the lease protects the soil from abuse. By the adoption of a better economy in America, an equal, or nearly an equal quantity of wheat might be raised, the land be preserved in a more valuable condition, and the farmer entrench himself with more numerous comforts."

If the following remarks are applicable to New England, is it not possible that they may apply with some pertinency to the meridian of Michigan?

A little farm well tilled.

The greatest obstacle to the improvement of agriculture in New England, is the propensity of the farmer, the *mania* I might call it, *to own more land than he can till to advantage.* And it is thus that we see scattered over the country, large tracts of sterile, unproductive land, which, under good cultivation, would yield bountiful and valuable crops. Not only the dictates of sound philosophy, but numerous facts, drawn from experience, are constantly and loudly calling upon the farmer, from every quarter, OCCUPY A SMALL FARM AND CULTIVATE IT WELL. I wish that this admonition could be thundered into the ears of the agricultural population of New England until a complete revolution should be produced in the farming system.

This great truth is already beginning to be understood in other countries, and is attended with corresponding advantages. The densest population in Europe may be found in Flanders and Lombardy, where the land is divided into small farms, and being thoroughly tilled, produces abundant food for the inhabitants. And the experience of a quarter of a century in France proves, that by the occupation of the country under small working farmers, the land is producing one-third more food, and supporting a population one-third greater, than when it was possessed in large masses.

The law is universal—it applies to every country—that the secret of success in agriculture consists in the thorough cultivation of a small piece of ground, which, well manured, and well worked, yields up its treasures in prodigal profusion. In almost every part of New England, one capital error runs through the whole system of farming. *A great deal of money is invested in land, and a very little money is employed in its cultivation.* And it

Time for cutting Grass.—It is said that you may take an old piece of herd's grass, that at present yields less than a half-ton to the acre; and at the end of 5 years without breaking up, fresh seeding, or manuring in any way whatever, you can raise the crop to two and a half tons per acre, merely by permitting the crop to stand until the seed will just vegetate before cutting; and further that the hay will be better than if cut earlier. By mowing the crop sooner than that, the roots bleed and die out; and that is the reason why a second crop does not spring till a long time after.

Profitable Sheep.—A Paular Merino Buck, the property of S. W. Jewett, Weybridge, Vt. weighs 150 lbs. and the average weight of his fleeces well washed, is 11½ lbs. Mr. Jewett has a large flock of sheep of this stock, all remarkable for length and fineness of wool, and weight of fleece. This stock sells readily at from $10 to $30 each—though some bucks sell as high as $300. Cannot some farmer, interested in sheep growing, procure a buck, to improve his own and his neighbors flocks. Why not as well shear from 5 to 10 lbs. of fine wool which will bring 50 cents a pound, as 3 or 4 lbs. of common quality at 25 cents?

The above stock is described in the Boston Cultivator as very hardy and docile, and of fine symmetry; they acquire fat on very scanty keep, and will live and propagate to a great age. A fence three feet high will enclose them sufficiently strong.

Mr. Jewett offers to supply wool-growers with rams, if they will give him the extra quantity of wooll produced from the stock for one year, at the same time adding to the increase, *constitution*, and other valuable points.

Killing Rats.—The following poisonous mixture was recommended by Humphrey Davy, as being cheap and tasteless, odorless and impalpable, and hence may be put with any substance which rats devour, without exciting their suspicion. It is merely a mixture of carbonate of barytes, with eight or ten times its weight of grease. It produces great thirst, and death immediately after drinking, thus preventing the animals going back to their holes. To prevent accidents to dogs, cats and poultry, it is spread inside of an iron vessel, hung with wire, bottom upwards, over a beam, just high enough for a rat to pass under easily. The writer says he has proved its efficacy for many years.

Grub in the heads of Sheep.—Put a little tar on the noses of sheep. This is offensive to the fly, and will prevent its depositing its eggs within the nostrils of the sheep. Smear the eating trough with tar, and they will get it on themselves.

To prevent Must, or Mowburn in Hay. —Take a number of smooth poles, lay the butt ends outside, so that they may be easily pulled out; let the mow, or stack, settle for two or three days, then pull them out,—it will leave a passage for the air into the hay that will insure it against must or mowburn, for some distance around it.

To kill weeds, cut them down close to, or just below the surface of the ground, a little before they go to seed.

European

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